

### Abstract

A method for generating a continuous mathematical model of a feature common to subjects in a subject group includes selecting a sample data set from each subject in the subject group, selecting a set of expansion functions to be used in the representation of the sample data set, mathematically expanding each member of the sample data set in the form of a summation of results of multiplying each the expansion function in the set of expansion functions by a different mathematical parameter wherein the expanding determines a value for each of the different mathematical parameters, deriving a corresponding distribution function for each of the mathematical parameters, and generating the continuous mathematical model of the feature from the derived distribution functions and the expansion functions. In this way, the model is continuous in time, incorporates dependencies between various parameters, and allows for creation of simulated subjects having pertinent features occurring in real subjects.